

ABSTRACT OF SANITARY REPORTS.

VOL. V.

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UNITED STATES.

SPECIAL REPORTS.

SEARSPORT, MAINE—*Small-pox*.—Surgeon Henry W. Sawtelle, M. H. S., Portland, Me., reports a fatal case of small-pox at Searsport in the person of a seaman who came from Boston as a passenger by steamer.

Reports of States, and yearly and monthly reports of cities.

ALABAMA—*Mobile*.—Month of May, 1890. Population, 40,000. Total deaths, 80, including phthisis pulmonalis 12 and enteric fever 1.

CONNECTICUT—*New Haven*.—Month of May, 1890. Population, 85,000. Total deaths, 119, including enteric fever, 2; whooping-cough, 1; diphtheria and membranous croup, 7; and phthisis pulmonalis, 16.

CALIFORNIA—*Oakland*.—Month of May, 1890. Population, 60,000. Total deaths, 81, including phthisis pulmonalis, 10; croup, 1; diphtheria, 2; measles, 5; and scarlet fever, 3.

FLORIDA—*Alachua County*.—Month of April, 1890. Population, 35,000. Total deaths, 12, including phthisis pulmonalis, 1, and influenza, 2.

Month of May, 1890. Total deaths, 6, including phthisis pulmonalis 1 and enteric fever 1.

ILLINOIS—*Chicago*.—Month of May, 1890. Population, 1,100,000. Total deaths, 1,613, including phthisis pulmonalis, 181; croup, 25; diphtheria, 59; scarlet fever, 15; enteric fever, 82; measles, 5; and whooping-cough, 12.

Galesburg.—Month of May, 1890. Population, 17,000. Total deaths, 4, including enteric fever 1.

IOWA.—Months of March and April, 1890. The following mortuary reports are extracted from the *Monthly Bulletin* for April and May:

DES MOINES, March: Consumption, 2; pneumonia, 7; diphtheria, 6; la grippe, 5; whooping-cough, 1; meningitis, 3. Total deaths, 49. Population, 58,000. Death rate, 0.7.

DES MOINES, April: Consumption, 4; pneumonia, 3; diphtheria, 7; la grippe, 3; meningitis, 4. Total deaths, 40. Death rate, .689.

DUBUQUE, March: Consumption, 11; pneumonia, 4; membranous croup, 1; meningitis, 3. Total deaths, 30. Population, 35,000. Death rate, .517.

DUBUQUE, April: Consumption, 5; pneumonia, 6; croup, 1; la grippe, 1. Total deaths, 36. Population, 35,000. Death rate, 1.1.

KEOKUK, March: Consumption, 3; pneumonia, 1. Total deaths, 17. Population, 16,000. Death rate, 1.06.

KEOKUK, April: Consumption, 7; pneumonia, 1; diphtheria, 1; meningitis, 1. Total deaths, 13. Population, 16,000. Death rate, 0.81.

BURLINGTON, April: Consumption, 2; typhoid fever, 1; malarial fever, 1. Total deaths, 24. Population, 30,166. Death rate, 0.78.

MUSCATINE, March: Consumption, 2; pneumonia, 4; scarlet fever, 1. Total deaths, 18. Population, 13,000. Death rate, 1.5.

MUSCATINE, April: Consumption, 2; pneumonia, 1; meningitis, 1. Total deaths, 13. Population, 13,000. Death rate, 1.

COUNCIL BLUFFS, April: Consumption, 1; pneumonia, 2; diphtheria, 5; meningitis, 1. Total deaths, 10. Population, 25,000. Death rate, 0.100.

DAVENPORT, April: Diphtheria, 10; membranous croup, 1; pneumonia, 1; influenza, 1. Total deaths, 22. Population, 33,715. Death rate, 0.65.

MICHIGAN.—Week ended June 7, 1890. Reports to the State board of health, Lansing, from 61 observers, indicate that diphtheria, cholera morbus, inflammation of bowels, measles, erysipelas, and remittent fever increased, and that puerperal fever, inflammation of brain, cerebro-spinal meningitis, typho-malarial fever, whooping-cough, scarlet fever, cholera infantum, tonsilitis, and inflammation of kidney decreased in area of prevalence.

Diphtheria was reported present during the week at 28 places; scarlet fever at 22 places; enteric fever, which increased by 233 per cent., at 10 places; and measles at 76 places.

Dr. Henry B. Baker, secretary of the State board of health, transmits the following item:

How diphtheria is spread by corpses.—In March, 1890, two corpses—woman and child of same family—dead of throat disease, certified by attending physician to be not "dangerous to the public health," were conveyed from Montmorency County to Lapeer County, Michigan, where, just one week from the day the coffins were opened and the remains viewed, a person who was thus exposed came down with diphtheria. Many others would probably have been exposed except for the action of the local health officer, Dr. C. A. Wisner, who, suspecting that the cause of the deaths was diphtheria, warned the neighbors and forbade the opening of the coffins at the funeral. He promptly isolated the first case that occurred, and no epidemic resulted. This is quite different from the result of a similar occurrence at Zanesville, Ohio, last spring, where many deaths resulted from exposure to a corpse brought from Chicago. It shows the importance of notice to the local health officer of the arrival of every corpse, so that he may take every precaution which may be necessary.

MINNESOTA—*Minneapolis*.—Month of May, 1890. Population, 200,000. Total deaths, 210, including enteric fever, 2; diphtheria, 8; measles, 10; scarlet fever, 1; whooping-cough, 1; and phthisis pulmonalis, 20.

MISSOURI—*St. Louis*.—Month of May, 1890. Population, 450,000. Total deaths, 653, including phthisis pulmonalis, 68; measles, 1; scarlet fever, 9; diphtheria, 19; croup, 4; whooping-cough, 1; and enteric fever, 8.

NEW YORK—*Rochester*.—Month of May, 1890. Population, 130,000. Total deaths, 181, including phthisis pulmonalis, 18; croup, 3; and enteric fever, 2.

NORTH CAROLINA.—Month of April, 1890. Reports to the State board of health from 19 cities and towns having an aggregate population of 98,700, show a total of 125 deaths, including enteric fever, 3; diphtheria, 1; and phthisis pulmonalis, 18.

OHIO—*Dayton*.—Month of May, 1890. Population, 60,000. Total deaths, 68, including phthisis pulmonalis, 12; croup, 1; diphtheria, 1; and enteric fever, 1.

PENNSYLVANIA—*York*.—Month of March, 1890. Population, 20,545. Total deaths, 20, including phthisis pulmonalis, 3; croup, 1; diphtheria, 2; and influenza, 1.

Month of April, 1890. Total deaths, 18, including phthisis pulmonalis, 2.

Month of May, 1890. Total deaths, 25, including phthisis pulmonalis 4 and diphtheria 4.

RHODE ISLAND.—Month of May, 1890. Reports to the State board of health from cities and towns representing an aggregate population of 304,940 show a total of 453 deaths, including phthisis pulmonalis, 68; diphtheria, 13; enteric fever, 3; measles, 7; scarlet fever, 2; and whooping cough, 2.

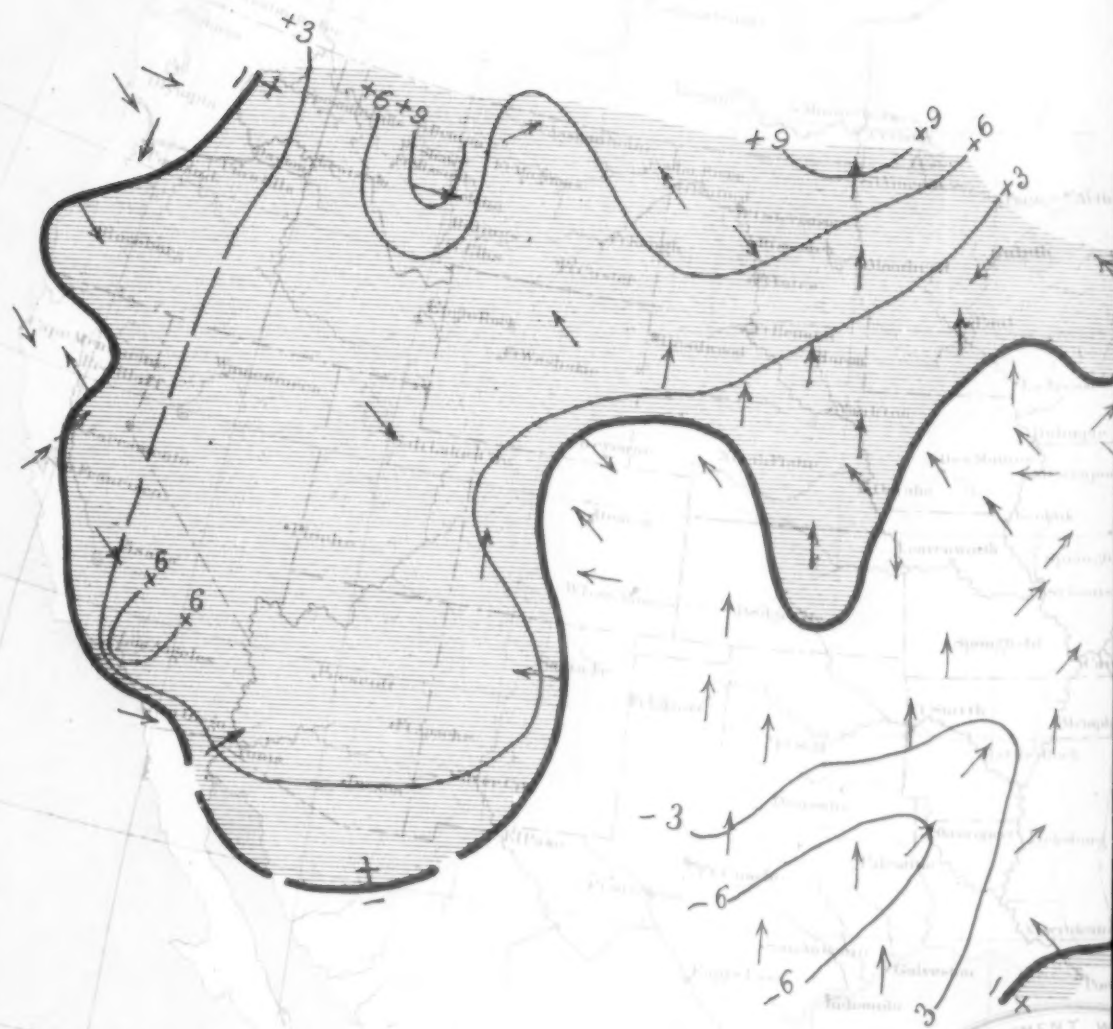
The *Monthly Bulletin* for June, 1890, says:

Reports from correspondents for the month of May, 1890, indicate a lessened amount of sickness throughout the State compared with the previous month, with the exception of those localities where contagious diseases were prevalent in large numbers. Compared with the month of April previous, bronchitis, measles, and whooping-cough were more prevalent, and all other respiratory and contagious diseases were less prevalent. Measles were epidemic or very largely prevalent in Westerly, Pawtucket, East Greenwich, West Cranston, and in the vicinity of Carolina and Ashaway.

Whooping-cough was epidemic or largely prevalent in Warren, Westerly, and Woonsocket.

Scarlet fever was reported from five localities only, and, with the exception of Woonsocket, for a very few scattered cases.

Temperature and Prevailing Direction *June 13, 1890.*



Shaded portions show excess, (+) and unshaded portions deficiency (-) of temperature

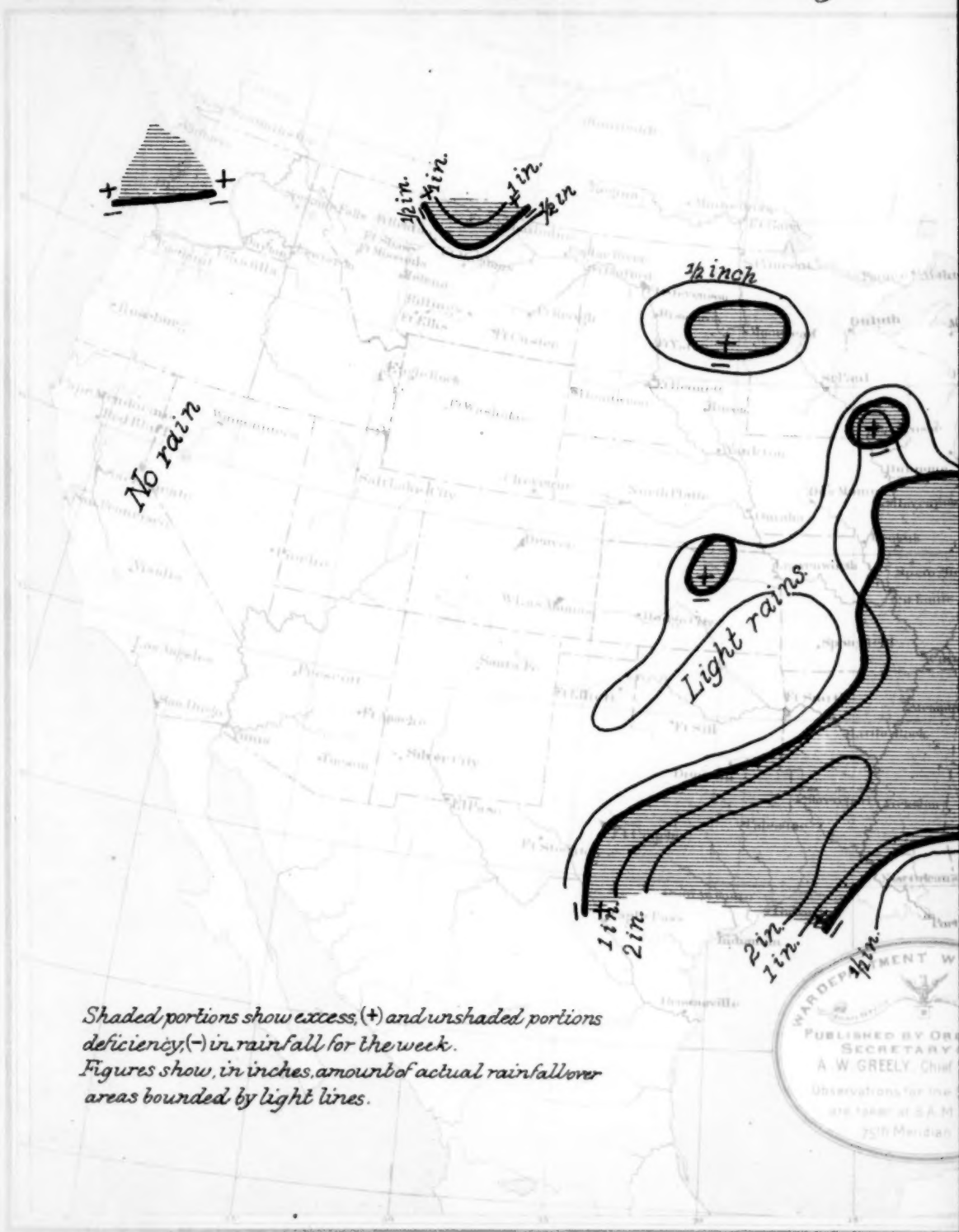
Figures show amount of excess, (+) or deficiency (-) in temperature over areas bounded by light lines.



tion of Wind, week ending
1890.



Rainfall, week ending June



Shaded portions show excess (+) and unshaded portions deficiency (-) in rainfall for the week.

Figures show, in inches, amount of actual rainfall over areas bounded by light lines.

U.S. DEPARTMENT OF AGRICULTURE
 PUBLISHED BY ORDER OF THE SECRETARY
 A. W. GREELY, Chief
 Observations for the week ending at 5 A. M.
 75th Meridian

9 June 13th 1890.



DEPARTMENT WEATHER MAP
 PUBLISHED BY ORDER OF THE
 SECRETARY OF WAR,
 W. GREELY, Chief Signal Officer
 Observations for the Signal Service
 are taken at 8 A.M. & 8 P.M.
 75th Meridian Time

Temperature and precipitation, week ending June 14, 1890.

[Received from the Signal Office, War Department.]

TEMPERATURE.

The week ending June 14 has been cooler than usual in the central valleys, New England, and the Southwest, the deficiency in temperature being slight except over Texas, where the daily average temperature was from 5° to 8° below the normal. On the Atlantic coast south of New York, and in the Northwest and the Rocky Mountain regions, the week was warmer than usual, the excess of temperature being slight except from Minnesota westward over Montana, where the daily excess generally exceeded 6° .

The temperature for the season, from January 1 to June 14, continues in excess generally over the States east of the Mississippi and over the territory west of the Mississippi, south of the fortieth parallel. On the middle Atlantic coast the seasonal excess of temperature has been greatest, and amounts to an average daily excess of 4° for the entire period. Over the Southern States and the Ohio Valley this excess ranges from 2° to 4° , while in the extreme Northwest, including Minnesota and the Dakotas, the seasonal deficiency in temperature is generally less than 2° for the entire period.

PRECIPITATION.

There has been an excess of rain-fall for the week generally throughout the central valleys, the lower lake region, northern New England, and western New York, the heaviest rains occurring in Texas and the west Gulf States, where over a large area the precipitation exceeded two inches. Heavy local rains also occurred in Alabama and the central Ohio valley. An excess of rain-fall is also reported in north-western Minnesota, and in northern Kansas where drought previously existed. Light showers occurred generally over the Missouri Valley, the south Atlantic States, Oregon, and Washington, while no rain occurred in California.

The rain-fall for the season generally continues in excess over the central valleys, the Lake region, northern portions of New England and the middle Atlantic States, and on the Pacific coast north of the thirty-fifth parallel. The large deficiency in rain-fall in the South Atlantic and east Gulf States has been somewhat reduced, and the greater portion of this region has now received over 50 per cent. of the normal. The same conditions prevail in portions of the Northwest. The region of drought in Minnesota and Dakota, which during May had less than 40 per cent. of the normal rain-fall, now reports about 70 per cent. of the normal rain-fall of the season.

FOREIGN.

(Reports received through the Department of State and other channels.)

GREAT BRITAIN—*England and Wales.*—The deaths registered in 28 great towns of England and Wales during the week ended May 31 corresponded to an annual rate of 17.8 a thousand of the aggregate population, which is estimated at 9,715,559. The lowest rate was recorded in Nottingham, viz, 11.7, and the highest in Manchester, viz, 28.7 a thousand. Diphtheria caused 5 deaths in Manchester, 4 in Salford, 4 in Liverpool, 2 in Birkenhead, 2 in Brighton, and 2 in Hull. One death from small-pox was reported in Huddersfield.

London.—One thousand four hundred and eleven deaths were registered during the week, including measles 83, scarlet fever, 14; typhus, 1; diphtheria, 25; whooping-cough, 78; enteric fever, 3; and diarrhœa and dysentery, 10. The deaths from* all causes corresponded to an annual rate of 16.1 a thousand. Diseases of the respiratory organs caused 259 deaths. In greater London 1,790 deaths were registered, corresponding to an annual rate of 16.2 a thousand of the population. In the "outer ring" the deaths included measles 20 and whooping-cough 23.

Ireland.—The average annual death rate, represented by the deaths registered during the week ended May 31, in the 16 principal town districts of Ireland, was 20.0 a thousand of the population. The lowest rate was recorded in Lisburn, viz, 0.0, and the highest in Dundalk, viz, 30.6 a thousand. In Dublin and suburbs 152 deaths were registered, including measles, 2; whooping-cough, 5; and diphtheria, 1.

Scotland.—The deaths registered in eight principal towns during the week ended May 31 corresponded to an annual rate of 23.3 a thousand of the population, which is estimated at 1,345,563. The lowest mortality was recorded in Greenock and Paisley, viz, 13.1, and the highest in Glasgow, viz, 28.4 a thousand. The aggregate number of deaths registered from all causes was 603, including measles, 48; scarlet fever, 5; diphtheria, 7; whooping-cough, 34; fever, 5; and diarrhœa, 15.

FRANCE—*Marseilles.*—Month of May, 1890. Population, 375,378. Total deaths, 884, including small-pox, 35; enteric fever, 19; scarlatina, 1; diphtheria and croup, 46; measles, 41; whooping-cough, 4; and diarrhœa and enteritis, 62.

SPAIN—*Valencia—Cholera.*—The Department of State informs this Bureau, under date of June 18, that the United States consul at Barcelona reports cholera near Valencia, and that the legation telegraphs that the disease is spreading rapidly.

June 19. The consul at Cadiz telegraphs that Cadiz has quarantined against Valencia.

BAHAMAS—*Nassau, N. P.*—Week ended May 31, 1890. Population, 12,000. City healthy. Weather hot and wet. Rain-fall during the week, 4.54 inches.

June 7. City healthy. Weather dry. Only one rain during week.

MEXICO—*Guaymas.*—Month of May, 1890. Population, 6,600. Total deaths, 16; none from contagious diseases.

Merida—Yellow fever.—The following telegram has been received from Dr. Manuel R. Moreno, sanitary inspector, M.-H. S.:

MERIDA, June 15.—Yellow fever epidemic. Twelve cases in Merida. Fear of epidemic.

BRAZIL—*Rio de Janeiro.*—Week ended May 10, 1890. Population, 450,000. Total deaths not given. The deaths included yellow fever, 18; small-pox, 2; enteric fever, 10; typhus, 8; pernicious fever, 2; and phthisis pulmonalis, 6. The sanitary condition of the city was reported as fairly good.

AUSTRO-HUNGARY—*Trieste—Statement relative to the reported disease "La Nona."*—The following has been received from the United States consul at Trieste, under date of May 17, 1890:

Some credence having been given to the rumors about the so-called disease "La Nona," I have taken occasion to inquire into the subject. The name is derived from the Italian, and is supposed to mean grandmother; but what connection it has with this much-respected person is not explained, except that she is given to dozing.

So widely circulated were these reports, and they attracted so much attention on account of the alleged peculiar symptoms, that the Austrian Government issued a circular inviting inquiries as to its existence. The result has been entirely negative; not one authenticated case was discovered. Neither can a case be substantiated in Italy, where it is said to have originated, by competent medical authority. Dr. Constantine, the sanitary physician of this port, during a recent visit to Rome, could learn nothing to verify it.

These extravagant rumors doubtless had their origin in a few stray cases of uræmic coma that were not understood, or some like condition.

JAMES F. HARTIGAN,

U. S. Consul.

BRAZIL.—*Sanitary requirements imposed upon vessels in accordance with the sanitary treaty between Brazil, Uruguay, and the Argentine Republic.*—The United States chargé d'affaires at Rio de Janeiro, in a letter addressed to the Honorable Secretary of State, transmits an extract from the Brazilian official journal of April 18, 1890, stating that the minister of the interior has agreed with the sanitary authorities of Uruguay and the Argentine Republic concerning the disinfectants and disinfecting apparatus which must be used in accordance with article 1,

etc., of the sanitary convention, by all vessels that enjoy the privileges of packets, and that orders have been solicited from the minister of finance to the end that the custom-house officers suspend such privileges of all vessels as are not properly equipped with the apparatus and disinfectants required.

The following are translations, made in this Bureau, of the articles of agreement between the above-named republics, bearing upon the matter mentioned :

ARTICLE 1.—*International sanitary regulations.*

All vessels applying for the privileges of packets to any of the three countries, Brazil, the Argentine Republic, and Uruguay, shall make a declaration :

1. That they accede to the sanitary treaty of Rio Janeiro.
2. That they agree to observe the requirements of these regulations as far as the said requirements refer to them.
3. That they have complied with the conditions of paragraph 1, article 5, of the treaty.*
4. That they will furnish transportation, free of charge, to the sanitary inspector, who shall receive a commission of embarkation from the sanitary authorities.
5. That they will comply with and put in practice all the requirements formulated by the sanitary inspector with the object of maintaining health on board.

Article 5 of the sanitary treaty between Brazil, the Argentine Republic, and the Eastern Republic of Uruguay, August 22, 1889.

The contracting parties recognize three classes of vessels: (1) Steamers carrying less than 100 passengers, (2) emigrant vessels carrying more than 100 passengers, and (3) sailing-vessels.

Vessels of the first and second class shall have on board a physician, and be provided with a steam disinfecting apparatus; a supply of disinfectants and the utensils for disinfection required by the international sanitary regulations; a pharmacopœia, in which shall be noted the quantity and variety of medical supplies on board at the time of departure from port, as well as supplementary supplies taken on at the several ports touched at; a register of medical prescriptions; a clinical record, in which shall be carefully noted all cases of illness occurring on board and the treatment of these cases; a passenger list, giving names, age, sex, nationality, profession, and rank; and a list of the crew.

The books referred to above shall be opened, signed, and sealed by the consul of one of the contracting States at the port of departure, and the pages referring to each voyage shall be sealed by the sanitary

* All vessels destined to any of the contracting States shall carry a bill of health sanctioned by the health authorities of the port of departure, and examined by the consuls of the ports of destination at the port of departure and at the ports touched at on the voyage. This bill of health shall be presented to the sanitary authorities of the ports of the three countries in order that it may be examined, and it shall be delivered to the health authorities of the last port at which the vessel arrives.

authority at the port of destination. No emolument for the ship's captain shall be attached to the keeping of these books.

All the papers on board shall be examined by the consular authority at the ports of departure and by the sanitary authority at the ports of destination, and the existence, or absence, total or partial, of the records referred to shall be noted in the bills of health.

Cholera in western Persia.

LEGATION OF THE UNITED STATES,
Teheran, April 30, 1890.

SIR: I have the honor to report that having assumed that the Department of State would like to be furnished with reliable information regarding the recent epidemic of cholera in western Persia, I requested Dr. E. W. Alexander, American missionary physician at Hamadan, to send me a report on that subject, the copy of which I now beg to submit to you inclosed herewith.

I have the honor to be, etc.,

E. SPENCER PRATT.

Hon. JAMES G. BLAINE,
Secretary of State, Washington, D. C.

[Inclosure in dispatch.]

HAMADAN, PERSIA, *April 18, 1890.*

SIR: Owing to the anxiety generally manifested in regard to the recent epidemic of cholera in Persia, I beg leave to present you the following report of this dreaded disease, which visited this part of Persia last autumn and continued well into the winter.

The cholera first appeared on the western border of Persia in September of last year, coming from the west eastward.

It had been devastating Bagdad as well as neighboring towns and villages.

We had been expecting it to make its appearance at any time during the summer in Persian territory, and feared the worst, knowing only too well the unsanitary condition of all Persian cities, towns, villages, and private dwellings; all being, according to modern ideas, hot-beds in which the cholera bacillus would be able to propagate itself *ad infinitum*.

Notwithstanding our fears, cholera did not really make its appearance in Persia until late in September, when the health officer of Kermanshah told me he discovered a case in a shed in the city which had been erected for the convenience of pilgrims.

The thermometer at that time registered about 85 degrees. The water supply of the city was very scarce and bad in quality; nevertheless the disease did not spread rapidly, and for a time was so mild that a number of cases, which were most likely cholera, were thought to be only cholera nostras, until a typical case was discovered about ten days after the first.

From the death of the second case the disease spread through the city rapidly.

Kermanshah is a city of above 30,000 inhabitants.

I do not know the mortality from this epidemic in that city, but think it was severer there than elsewhere in Persia during the past season.

I left Kermanshah October 1 for Hamadan, a city of some 50,000 souls, 100 miles east of Kermanshah, in order to be on the ground before the epidemic, which was almost sure to follow. When we reached Asadabad, four days' caravan from Kermanshah and one from Hamadan, we learned that four cases were reported there.

Although Asadabad is a more unhealthy small town, the disease never assumed alarming proportions there, but made its way over the mountains to Hamadan, where I saw the first case in the house of the chief surgeon of the city, October 15, 1889. Again, it might be noted that there was, for some unknown reason, an abeyance of the scourge for another ten days before it appeared in its full form.

In Hamadan the epidemic proved long and tedious rather than severe, lasting, as it did, from October 15 until January 1, and two cases were reported as late as March 10 by a Jewish doctor, who would surely recognize the disease when seen.

Many cases in this city proved to be light and quite amenable to treatment, while others were severe and terminated fatally in from twelve to twenty-four hours.

The dryness of the season, while rendering the water of the "kannots" bad, had also a salutary effect.

Situated as this city is, close to the mountain-side and at an elevation of over 6,000 feet above the level, we have a dry atmosphere, poorly suited for carrying the germs of disease.

Much of the filth of the city being on the surface, was perfectly dry and consequently less harmful.

Certain "kannots,"* being well filled with putrid mud, carried the disease into the homes of those who were careless enough to use much water.

The disease did not extend eastward beyond Hamadan, but left the regular caravan road, which connects Kermanshah and Hamadan, at Kangarar and extended northward into Kurdistan. It was very mild in Saunch, the principal city of that country. Following the caravan north from Kangarar, the disease invaded the towns of Tusmkon, Nahornd, Doletabad, Brooyed, and many villages of the same region. The disease was moderately severe in all of these different places.

Cholera entered Persia in September and was nearly extinct by January. It was distributed over 6,000 miles of territory, inhabited by 400,000 people.

The mortality is not known, but I think it was under 2,000 for the whole district.

I have the honor, etc.,

E. W. ALEXANDER.

Hon. E. SPENCER PRATT,

Minister of the United States, etc.

* Kannots are the canals (subterranean or surface) used throughout Persia for the conveyance and distribution of water.—SPENCER PRATT.

Reappearance of cholera in Mesopotamia.

[Translated for this Bureau from *La Revue Médico-Pharmaceutique*, Constantinople, May 31, 1890.]

The rumor current in April of the reappearance of cholera in Mesopotamia is confirmed by late and reliable information. From April 25 to April 27 three cases of cholera occurred in the city of Mossoul, where in 1889 there were choleraic deaths as late as November 18. Local measures have been taken to arrest the disease. A new case, however, is reported as occurring on April 29, and two other cases, one fatal, are reported for May 3, making in all, from April 25 to May 3, two deaths and five cases not fatal. The latest accounts state no other cases up to May 25. That the disease which has appeared at Mossoul is cholera has been proved beyond a doubt by a medical commission which has verified the manifestations that belong to the symptomatology of cholera.

On May 8 the overseers of the royal demesnes at Dédjil reported that a number of persons in the villages of Beled and Suméké, some hours' travel east of Bagdad, had been taken suddenly ill and that some had died with symptoms analogous to those of cholera. The local physicians promptly put a cordon around the infected localities. Two military physicians sent from Bagdad to Beled verified cholera. They visited fifty patients and examined ten dead bodies, and in all cases found cholera manifestations. From May 14 to 19 six choleraic deaths were reported at Beled. At Suméké the physicians report no appearance of cholera. The village of Beled remains isolated.

It is idle at this early day to enter into a discussion as to whether the choleraic cases at Mossoul and in the vicinity of Bagdad are or not the last manifestation of the epidemic of 1889. The extreme heats of summer will soon begin in Mesopotamia, and when it is borne in mind that cholera did not break out last year until the latter part of July, it must be admitted that the proper authorities can not be too strongly urged to the adoption of rigorous measures of defense. The system of cordons has been much criticised as a superannuated and ridiculous expedient because, during the last cholera epidemic, the Persian cordons were ineffective. The establishment of a number of posts of observation and the disinfection and isolation of sporadic cases, measures which secured good results during the recent pandemic in Europe, have been recommended in place of the cordon. The military cordon is, however, a necessity in the East, where communication is not limited to the line of railways, where nomadic tribes are on the alert to evade the supervision of the sanitary authorities, and where, in a word, disinfection is synonymous with destruction. It would be imprudent to abolish the cordon on the eve of a possible outbreak.

Sanitary prophylaxis of cholera.

[Translated for this Bureau from *Le Journal d'Hygiene*, Paris, May 22, 1890.]

Doctor Legrand, sanitary physician at the French hospital at Suez, has recently published a pamphlet entitled "Contribution to the study of the modern sanitary prophylaxis of cholera." His conclusions are:

1. That the mode of propagation of cholera by the dejections of

patients, by impure water and unclean clothing, allows of the establishment of a system of rational prophylaxis, based on medical inspection and disinfection.

2. That long quarantines are useless. The observation still necessary at the present stage of science should be limited strictly to the period of incubation, five days in all, taking into account the length of the voyage, provided that during this period thorough sanitation of the ship and of all moveable effects be practiced.

3. That the most efficacious and practical means of disinfection are: Steam-pressure stoves; chemical disinfectants, among which may be mentioned solutions of sulphate of copper, chloride of zinc (5 to 2 per cent.), milk of lime, freshly prepared (20 to 7 per cent.), and solutions of sublimate in the proportion of 1 to 1,000. The latter are preferable to all other disinfectants. Although sulphurous acid does not figure in this catalogue Doctor Legrand states that sulphurous acid is efficacious when applied in connection with humidity.

According to Jungfleisch, when sulphurous acid exists in the nascent state in a humid atmosphere it forms an oxyhydro-sulphuric acid which is much more penetrating than sulphurous acid.

Doctor Legrand's work forms an interesting chapter of public and international hygiene. In the course of his scientific exposition of the subject the author refers to the prediction made by Fauvel after the cholera epidemic at Toulon: That at no distant day quarantines properly so-called shall disappear before the irresistible force which tends to multiply international relations, and shall be replaced by preventive measures of a very different order.

MORTALITY TABLE—FOREIGN CITIES.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—							
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.
London.....	May 24.....	5,758,500	1,865	.....	.....	1	.....	6	17	27	108
London.....	May 31.....	5,758,500	1,790	.....	.....	.....	.....	3	15	28	103
Glasgow.....	May 31.....	545,678	290	.....	.....	.....	.....	3	1	4	29
Warsaw.....	May 17.....	455,852	234	.....	.....	18	.....	.....	1	6	.....
Warsaw.....	May 24.....	455,852	257	.....	.....	11	.....	.....	2	7	.....
Calcutta.....	Apr. 26.....	433,219	270	18	.....	36	.....	.....	.....	.....	.....
Rome.....	May 3.....	418,217	150	.....	.....	.....	2	.....	.....	5	.....
Amsterdam.....	May 24.....	406,402	183	.....	.....	.....	.....	2	.....	3	.....
Amsterdam.....	May 31.....	406,402	154	.....	.....	.....	.....	.....	.....	2	.....
Copenhagen.....	May 24.....	312,387	145	.....	.....	.....	1	.....	.....	9	.....
Munich.....	May 17.....	298,000	181	.....	.....	.....	1	1	.....	8	.....
Edinburgh.....	May 10.....	271,135	99	.....	.....	.....	1	1	.....	.....	5
Edinburgh.....	May 17.....	271,135	83	.....	.....	.....	1	1	.....	1	4
Edinburgh.....	May 24.....	271,135	92	.....	.....	.....	1	1	.....	1	4
Rotterdam.....	May 31.....	203,472	91	.....	.....	.....	.....	1	2	.....	.....
Genoa.....	May 31.....	180,279	89	.....	.....	6	1	.....	.....	.....	.....
Trieste.....	May 10.....	158,054	65	.....	.....	.....	.....	.....	.....	1	.....
Trieste.....	May 24.....	158,054	71	.....	.....	.....	.....	.....	.....	4	.....
Stuttgart.....	May 31.....	125,510	55	.....	.....	.....	.....	.....	.....	5	.....
Havre.....	May 24.....	112,074	75	.....	.....	.....	.....	.....	.....	.....	12
Catania.....	May 26.....	109,000	40	.....	.....	.....	.....	1	.....	2	.....
Catania.....	June 2.....	109,000	68	.....	.....	.....	.....	3	2	1	.....
Barmen.....	May 24.....	109,000	36	.....	.....	.....	.....	.....	.....	.....	.....
Leith.....	May 10.....	78,538	38	.....	.....	1	.....	.....	.....	.....	.....
Leith.....	May 17.....	78,538	26	.....	.....	.....	.....	1	.....	.....	.....
Leith.....	May 24.....	78,538	29	.....	.....	.....	.....	.....	.....	.....	.....
Mayence.....	May 24.....	65,802	28	.....	.....	1	.....	.....	.....	.....	.....
Cadiz.....	May 17.....	57,157	53	.....	.....	.....	.....	.....	.....	.....	.....
Cadiz.....	May 21.....	57,157	35	.....	.....	1	.....	.....	.....	3	.....
Schiedam.....	May 25.....	25,600	13	.....	.....	.....	.....	.....	.....	.....	.....
Schiedam.....	June 1.....	25,600	15	.....	.....	.....	.....	.....	.....	.....	.....
Cardenas.....	June 9.....	24,000	19	.....	.....	.....	1	.....	.....	1	.....
Gibraltar.....	May 25.....	23,600	4	.....	.....	.....	.....	.....	.....	.....	.....
Kingston, Can.....	June 6.....	18,284	17	.....	.....	.....	.....	.....	.....	.....	.....
Kingston, Can.....	June 13.....	18,284	8	.....	.....	.....	.....	.....	.....	.....	.....
Sagua.....	May 24.....	15,605	7	.....	.....	.....	.....	.....	.....	.....	.....
Sagua.....	May 31.....	15,605	6	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	Apr. 19.....	15,000	4	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	Apr. 26.....	15,000	8	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	May 3.....	15,000	5	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	May 10.....	15,000	6	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	May 17.....	15,000	6	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	May 24.....	15,000	8	.....	.....	.....	.....	.....	.....	.....	.....
Cape Haytien.....	May 31.....	15,000	7	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas.....	May 23.....	13,000	8	.....	.....	.....	.....	.....	.....	.....	.....
Flushing, Neth.....	May 24.....	12,793	6	.....	.....	.....	.....	.....	.....	.....	.....
Flushing, Neth.....	May 31.....	12,793	6	.....	.....	.....	.....	.....	.....	.....	.....
Turk's Islands.....	Apr. 2.....	5,000	7	.....	.....	.....	.....	.....	.....	.....	.....
Turk's Islands.....	Apr. 9.....	5,000	5	.....	.....	.....	.....	.....	.....	.....	.....
Turk's Islands.....	Apr. 16.....	5,000	6	.....	.....	.....	.....	.....	.....	.....	.....
Turk's Islands.....	Apr. 23.....	5,000	5	.....	.....	.....	.....	.....	.....	.....	.....

JOHN B. HAMILTON,

Supervising Surgeon-General, Marine-Hospital Service.